

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Amendment of Part 2 of the Commission's
Rules to Allocate Spectrum for the Fixed-
Satellite Service in the 17.8 - 20.2 GHz Band
for Government Use

MEMORANDUM OPINION AND ORDER

Adopted: July 28, 1995;

Released: July 31, 1995

By the Commission:

1. By this action, we are amending the Commission's Table of Frequency Allocations by adding a footnote to permit use of the 17.8 - 20.2 GHz band for Government space-to-Earth ("downlink") fixed-satellite transmissions. We are also revising a footnote to limit Government use of this band to military systems. We take this action at the request of the Administrator, National Telecommunications and Information Administration ("NTIA") for the purpose of advancing, supporting, and accommodating the national defense.¹

2. The 17.8 - 20.2 GHz band is allocated on a worldwide basis for FSS downlinks and domestically is predominately exclusive non-Government spectrum.² Uses of the 17.8 - 19.7 GHz general-purpose fixed spectrum include auxiliary broadcast, common carrier, private, cable television, digital electronic message service ("DEMS"), and digital termination service ("DTS") systems for data communications. The fixed-satellite downlink allocation at 17.7 - 20.2 GHz is conventionally paired with uplinks at 27.5 - 30 GHz. Uplinks for direct broadcast satellites have access to the

17.8 - 18.4 GHz band. The 19.7 - 20.2 GHz band is the downlink portion of the 20/30 GHz multipurpose satellite band.

3. On July 12, 1995, the Administrator, NTIA, requested that we add a United States footnote to the United States Table of Frequency Allocations.³ The proposed footnote reads as follows:

In the band 17.8 - 20.2 GHz, Government space stations and associated earth stations in the fixed-satellite (space-to-Earth) service may be authorized on a primary basis. For a Government geostationary satellite network to operate on a primary basis, the space station shall be located outside the arc measured from East to West, 700 W to 1200 W. Coordination between Government fixed-satellite systems and non-Government systems operating in accordance with the United States Table of Frequency Allocations is required.

NTIA states that the reallocation is essential to fulfill requirements for Government space systems to perform satisfactorily, that current Department of Defense ("DoD") requirements cannot be accommodated in frequency bands currently allocated for Government use, and that due to the likely consideration of this band at the 1995 World Radiocommunication Conference, this matter is urgent. NTIA further states that this matter involves military functions, as well as specific sensitive national security interests of the United States. NTIA therefore asks that we forgo notice and comment rulemaking procedure and immediately amend the Table of Frequency Allocations in accordance with its request.

4. During our inter-agency consultations, NTIA stated that these Government satellite systems would comply with the International Telecommunication Union's ("ITU's") Radio Regulations.⁴ NTIA also stated that, because of the urgent national security interests at stake, the amended rules should be made effective immediately upon publication in the Federal Register. In addition, we proposed to revise Government Footnote G117 by adding a reference to the 17.8 - 20.2 GHz band, thereby limiting Government fixed-satellite use of the band to military systems. We made

¹ See 47 U.S.C. § 151.

² Currently, 400 megahertz of this spectrum is shared between Government and non-Government services. Specifically, the 18.1 - 18.3 GHz band is allocated to the meteorological-satellite service (Earth-to-space) on a co-primary basis. Its use is limited to geostationary satellites. See International Footnote No. 870. The 18.6 - 18.8 GHz band is allocated to the earth-exploration satellite (passive) and space research (passive) services on a co-primary basis. See 47 C.F.R. § 2.106. The remaining 2 gigahertz of spectrum is currently allocated for exclusive non-Government use.

³ Letter from Larry Irving, Administrator, NTIA to Reed E. Hundt, Chairman, FCC, dated July 12, 1995. Section 305(a) of the Communications Act of 1934, as amended, 47 U.S.C. § 305(a), authorizes the President to assign frequencies to Federal Government stations. This authority has been delegated to the Assistant Secretary of Commerce for Communications and Information, who also serves as the Administrator, NTIA. See Pub. Law 102-538, 106 Stat. 3533 (1992). The Commission administers non-Government spectrum and NTIA administers Government spectrum. See 47 C.F.R. § 2.105 (a).

⁴ For example, in the frequency band 17.7 - 19.7 GHz, "the

power flux-density at the Earth's surface produced by emissions from a space station, including emissions from a reflecting satellite, for all conditions and for all methods of modulation, shall not exceed the following values:

-115 dB (W/m²) in any 1 MHz band for angles of arrival between 0 and 5 degrees above the horizontal plane;

-115 + 0.5(-5) dB (W/m²) in any 1 MHz band for angles of arrival (in degrees) between 5 and 25 degrees above the horizontal plane;

-105 dB (W/m²) in any 1 MHz band for angles of arrival between 25 and 90 degrees above the horizontal plane.

These limits relate to the power flux-density which would be obtained under assumed free-space propagation conditions." See ITU *Radio Regulations*, Edition of 1990, Revised in 1994, Nos. 2577-2580.1. In the frequency band 19.7 - 20.2 GHz, no terrestrial service is allocated and thus no sharing criteria is needed.

this proposal in order to preserve as much of the spectrum as possible for commercial systems. NTIA did not object to the proposed revision of G117.

5. Based on the foregoing, we find that this matter involves the exercise of military functions of the United States and that, because the request is based on urgent national security needs, notice and public procedure are, for good cause shown, impracticable, unnecessary, and contrary to the public interest. See 5 U.S.C. § 553 (a)(1),(b)(3)(B); *Bendix Aviation Corp. v. F.C.C.*, 272 F.2d 533 (D.C. Cir. 1959), *cert. denied sub nom. Aeronautical Radio, Inc. v. U.S.*, 361 U.S. 965 (1960). Based on the representations of NTIA that the reallocation is essential to fulfill requirements for Government space systems to perform satisfactorily and that current DoD requirements cannot be accommodated in frequency bands currently allocated for Government use, we find that the public interest will best be served by accommodating the NTIA request and immediately adding United States Footnote US334 to and amending Government Footnote G117 of the Table of Frequency Allocations.⁵

6. Accordingly, IT IS ORDERED that Part 2 of the Commission's Rules, 47 C.F.R. Part 2, IS AMENDED as set forth in the attached Appendix, effective upon publication in the Federal Register.⁶ Authority for this action is contained in Sections 4(i), 4(j), 303(c), and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154(i), 154(j), 303(c), and 303(r).

FEDERAL COMMUNICATIONS COMMISSION

William F. Caton
Acting Secretary

Appendix: Final Rules

Part 2 of Title 47 of the Code of Federal Regulations is amended as follows:

PART 2 - FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS

1. The authority citation in Part 2 continues to read as follows:

AUTHORITY: Sections 4, 302, 303, and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 302, 303, and 307, unless otherwise noted.

2. Section 2.106, the Table of Frequency Allocations, is amended as follows:

a. Columns 4 and 5 in the frequency band 17.8 - 20.2 GHz are revised as follows:

§ 2.106 Table of Frequency Allocations.

* * * * *

⁵ We also are ministerially adding non-Government Footnote NG144 to the non-Government table in both the 18.6 - 18.8 GHz and 18.8 - 19.7 GHz bands in order to correct their previous inadvertent omission. See the Appendix. See also *Digital Termination Systems and Digital Electronic Message Services* (Second Report and Order), General Docket No. 79-188, 48 Fed. Reg. 50322 at ¶ 39 & Appendix B at A (November 1, 1983).

Because this is a ministerial correction and not a substantive change to the rules, notice and comment are unnecessary. See 5 U.S.C. § 553 (b)(3)(B).

⁶ Because this rule change is based upon urgent national security interests and will not have a significant impact on existing licensees we find good cause to make this rule change effective upon publication in the Federal Register. 5 U.S.C. Section 553(d)(3).

International table			United States table		FCC use designators	
Region 1-allocation GHz	Region 2-allocation GHz	Region 3-allocation GHz	Government Allocation GHz	Non-Government Allocation GHz	Rule Part(s) (6)	Special-use frequencies (7)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
*	*	*	*	*	*	*
17.7 - 18.1	FIXED FIXED-SATELLITE (space-to-Earth)(Earth-to-space) 869 MOBILE					
18.1 - 18.6	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 870		17.8 - 18.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 870 US334 G117	17.8 - 18.6 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 870 US334 NG144	AUXILIARY BROADCASTING (74) CABLE TELEVISION RELAY (78) DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	
18.6 - 18.8	FIXED-SATELLITE (space-to-Earth) 872 MOBILE except aeronautical mobile Earth Exploration- Satellite (passive) Space Research (passive)	18.6 - 18.8 FIXED-SATELLITE (space-to-Earth) 872 MOBILE except aeronautical mobile Earth Exploration- Satellite (passive) Space Research (passive)	18.6 - 18.8 EARTH EXPLORATION- SATELLITE (passive) SPACE RESEARCH (passive) US254 US255 US334 G117	18.6 - 18.8 EARTH EXPLORATION- SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) MOBILE except aero- nautical mobile SPACE RESEARCH (passive) US254 US255 US334 NG144	AUXILIARY BROADCASTING (74) CABLE TELEVISION RELAY (78) DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	
871		871				
18.8 - 19.7	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE		18.8 - 19.7 US334 G117	18.8 - 19.7 FIXED FIXED-SATELLITE (space-to-Earth) MOBILE US334 NG144	AUXILIARY BROADCASTING (74) CABLE TELEVISION RELAY (78) DOMESTIC PUBLIC FIXED (21) PRIVATE OPERATIONAL-FIXED MICROWAVE (94)	

International table			United States table		FCC use designators	
Region 1-allocation GHz	Region 2-allocation GHz	Region 3-allocation GHz	Government Allocation GHz	Non-Government Allocation GHz	Rule Part(s)	Special-use frequencies
(1)	(2)	(3)	(4)	(5)	(6)	(7)
19.7 - 20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-Satellite (space-to-Earth)	19.7 - 20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)	19.7 - 20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-Satellite (space-to-Earth)	19.7 - 20.1	19.7 - 20.1 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)		
873	873 873A 873B 873C 873D 873E	873	US334 G117	873A 873B 873C 873D 873E US334		
20.1 - 20.2	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)		20.1 - 20.2	20.1 - 20.2 FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth)		
	873 873A 873B 873C 873D		US334 G117	873A 873B 873C 873D US334		
*	*	*	*	*	*	*

b. Add the text of new United States footnote US334 to read as follows:

UNITED STATES (US) FOOTNOTES

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US334 In the band 17.8 - 20.2 GHz, Government space stations and associated earth stations in the fixed-satellite (space-to-Earth) service may be authorized on a primary basis. For a Government geostationary satellite network to operate on a primary basis, the space station shall be located outside the arc measured from East to West, 700 W to 1200 W. Coordination between Government fixed-satellite systems and non-Government systems operating in accordance with the United States Table of Frequency Allocations is required.

c. Revise the text of existing Government footnote G117 to read as follows:

GOVERNMENT (G) FOOTNOTES

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G117 In the bands 7.25 - 7.75 GHz, 7.9 - 8.4 GHz, 17.8 - 21.2 GHz, 30 - 31 GHz, 39.5 - 40.5 GHz, 43.5 - 45.5 GHz, and 50.4 - 51.4 GHz the Government fixed-satellite and mobile-satellite services are limited to military systems.

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